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3P

January 6, 1961

Report Nr. MTP-LOD-MP-60-49.3

(NASA-TM-X-50450) FIRING SITE WEIGHT
REPCRT. PART 3: MERCURY REDSTONE MR-1
Firing Test Report (NASA) 3 p

N74-72421

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**SPACE
FLIGHT
CENTER**

GEORGE C. MARSHALL

HUNTSVILLE, ALABAMA

(NASA TMX 50450)

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FIRING SITE WEIGHT REPORT.
PART III:
of the
Firing Test Report
Mercury Redstone MR-1
(U)

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(NASA TM-X-50450)

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FIRING SITE WEIGHT REPORT

PART III

of the

~~Firing Test Report~~

Mercury Redstone MR-1 (U)

Prepared By
Thomas E. Martin

Jan 6, 1961

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MECHANICAL, STRUCTURAL AND PROPULSION OFFICE
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1. The usual detailed Firing Site Weight Report will not be published for Mercury-Redstone MR-1. The following weights obtained at the launch site are presented for record purposes and for the use of agencies requiring firing site weight data.

2. MR-1 thrust unit dry weight in flight condition as determined in Hangar D, NASA-LOD, was 8,163.5 pounds with the longitudinal center of gravity at station 404.38 inches.

3. The gross capsule-vehicle weight at launch, as of November 20, 1960, was 3,756.7 pounds with the longitudinal center of gravity at station — 92.04 inches. This value was furnished by the McDonnell Aircraft Corporation and is not a final capsule weight evaluation but merely used here in order to determine vehicle liftoff weight.

4. The assembled vehicle dry weight was 11,920 pounds at station 247.93 inches.

5. Propellant weights were measured with the Pad 5 load-cell weighing system. Vehicle liftoff weight was determined as follows:

| | |
|--|---------------|
| Vehicle dry weight | 11,920 |
| Fuel by load cells | 23,735 |
| Lox by load cells | 28,995 |
| H ₂ O ₂ fill to overflow | 968 |
| Nitrogen gas calculated | 104 |
| Total weight prior to ignition | <u>65,722</u> |
| Less transition consumption | <u>— 228</u> |
| Vehicle liftoff weight | 65,494 |

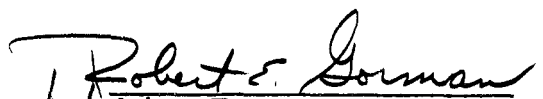
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